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ABSTRACT

Attributions for school success and failure were examined among 211 community college students (112 Native Americans and 99 Anglos) enrolled in remedial reading classes at a large, urban multi-campus community college system in the Southwest. The Multidimensional-Multiattributional Causality Scale (MMCS) was administered to the students in their classrooms in the spring of 1983. The MMCS consists of eight 3-item subscales designed to measure the attributions of success and failure to ability, effort, context or luck. Correlations between achievement motivation and expectancy of success were also examined using the Achievement Motivation Scale (AMS) and Academic Expectancy Scale (AES). At the same time the MMCS was administered, the AMS and AES were randomly administered to students within classrooms so that 102 students (56 Native Americans, 46 Anglos) received the AMS and 109 (56 Native Americans, 53 Anglos) the AES. Results indicated that Native Americans attributed their school achievement more to effort than did Anglos. Appendices include statistical information and graphs pertaining to the study. (ERB)

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ATTRIBUTIONS FOR SCHOOL ACHIEVEMENT OF ANGLO AND NATIVE AMERICAN COMMUNITY COLLEGE STUDENTS

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Paper presented at the Annual Meeting of the Rocky Mountain Educational Research Association, Tucson, Arizona, November 2-5, 1983.

ABSTRACT

Attributions for school success and failure were examined among 211 Native American and Anglo community college students with the Multidimensional-Multiattributional Causality Scale. Native Americans were found to attribute their school failure more to lack of effort than did Anglos. Correlations between achievement motivation and expectancy of success were also examined.

The study of the perception of causation and its effect on motivation is a major subject of attribution theory. For example, success or failure in school will generate causal attributions as an individual attempts to find reasons for these happenings. Weiner (1980) categorized attributions into three dimensions - locus, stability, and controllability. The locus dimension refers to the location of a cause which may be internal (e.g. one's effort or ability) or external (e.g. the difficulty of the task or luck). The stability dimension refers to the temporality of a cause. Effort and luck may vary and, hence, be perceived as unstable factors. The third dimension of the typology is that of controllability which is the volitional control one has over a cause. Effort is often perceived as under one's control whereas luck is not so perceived.

Attributions have been reported to affect self-esteem, achievement strivings and expectancy of success. Persons who perceive events as the consequence of their effort or ability (internals) have been shown to have higher grades and achievement test scores (Crandall, Katkovsky and Preston, 1962) and to evidence greater presistence (Weiner, Nierenberg and Goldstein, 1976). Betancourt and Weiner (1980) theorized that attributions of success to internal causes increase self-worth relative to external attributions. They also reported that attributions of failure to internal causes decreases self-esteem.

The development of the Mutidimensional-Multiattributional Causality Scale (MMCS) (Lefcourt, Von Baeyer, Ware and Cox, 1979) enabled the measurement of attributions of success to effort, ability, context and luck, and the attributions of failure to effort, ability, context and luck. Research on the factorial validity of the MMCS (Powers, Douglas and Choroszy, 1983; Powers and Rossman, 1983) has been supportive of the instrument's validity with gifted high school students and community college students. These two studies have also found a distinction among attributions for success to effort, ability, context and attributions, and for failure to the same four causes.

The attributions of students from different cultural background has long been a concern of researchers. Further, the strivings of different cultural groups have generated

numberous questions about the relationship between students' attributions of success and failure and their achievement motivations. The purpose of the present study is to compare the attributions of Native American and Anglo (non-Hispanic Caucasian) community cllege students and to investigate correlates of these attributions.

METHOD

Subjects. The subjects were 211 community college students (112 Native Americans and 99 Anglos) enrolled in a large, urban, multi-campus community college system located in the Southwest. All subjects were enrolled in remedial reading classes. Forty-eight percent of the subjects were male and 52 percent were female. The mean age was 24.1 with a range from 17 to 49 years.

Instruments. The Multidimensional-Multiattributional Causality Scale (MMCS)(Lefcourt, Von Baeyer, Ware and Cox, 1979) was administered to the students in their classrooms. This scale consists of eight 3-item subscales designed to measure (a) the attributions of success to ability, effort, context or luck and (b) the attributions of failure to lack of ability, lack of effort, context or bad luck. The 3-item subscales could be combined to form four 6-item subscales which measured the attributions of school achievement to effort, ability, context and luck. The Kuder-Richardson formula 20 reliability estimate of the MMCS for this sample was .75.

The Achievement Motivation Scale (AMS), adapted from the Myers Achievement Motivation Scale (Myers 1965), consisted of ten items on a scale from (1) No, (2) Don't know, to (3) yes. An example of an item is: Do you have a very strong desire to excell academically?

The Academic Expectancy Scale (AES) comprised a total of nine items: (a) an expectancy of reading success subscale of 3-items, (b) an expectancy of mathematics success subscale of 3 items and (c) a general expectancy of academic success subscale. Each item of the AES was measured on a scale from (1) Disagree to (5) Agree. An example of an expectancy item is: For any college course I take, my grades will be very high.

Procedure. Students were surveyed in the spring of 1983 with the MMCS. At the same time the AMS and AES were randomly administered to students within classrooms so that 102 students (56 Native Americans, 46 Anglos) received the AMS and 109 (56 Native Americans, 53 Anglos) the AES.

RESULTS AND DISCUSSION

The four 6-item subscales (Effort, Ability, Context and Luck) were analyzed with a 2 x 2 analysis of variance (ANOVA) with culture (Native American/Anglo) and sex as factors. Since the sex effect were not significant $p > .48$ on these four attributions for achievement, male and female groups were combined. Following this, Native American and Anglo students were compared using Bonferroni t-tests (Miller, 19[illegible]). The Bonferroni t-test consists of dividing up the level of significance among a set of planned comparisons. Since there were four t-tests conducted, one for each six-item subscale of the MMCS, the .0125 (i.e. .05/4) was set as the alpha level. Only the comparison of Native Americans and Anglos on the Effort subscale was significant ($t(209) = 2.74$, $p < .007$). This indicated that Native Americans attributed their school achievement more to effort than did Anglos.

Insert Table 1 about here

To localize the source of association between item response and culture, each item of the Effort subscale was analyzed with a 5 x 2 likelihood ratio chi-square test of independence. This chi-square is interpreted in the same way as the more familiar Pearson chi-square statistics. Significant chi-square values were found for the three items which measured the attribution of failure to lack of effort. This association indicated that on the three items, Native American students attributed their school failure more to lack of effort than did Anglo students. None of the other chi-square values for the attributions of school success to effort were significant.

Insert Table 2 about here

Pearson correlations among the attributional, expectancy and achievement motivation scales were computed separately for Native Americans and Anglos. The only difference between correlations was with respect to the relationship between attributions of success to ability and achievement motivation. This correlation was significant for Native Americans ($r = .39$, $p < .01$) and not for Anglos ($r = -.02$). The differences between the two groups was significant ($z = 2.10$, $p < .05$). This indicated that Native Americans who attributed their success to ability tended to be more achievement motivated. Since the other differences in correlations between Native Americans and Anglos were not significant, these two groups were combined to obtain more statistical power for further correlational analysis.

The correlation between achievement motivation and attributions of school success to one's effort was significant for the combined groups ($r = .22$, $p < .031$). Achievement Motivation was negatively correlated with the attributions of school success to context of the event ($r = -.23$, $p < .024$). The first correlation suggests the greater the achievement motivation, the greater the attributions of success to one's effort. The other correlation (-.23) indicates those students with higher achievement motivation have a tendency to attribute their school success less to context. Since these correlations are small, they should be cautiously interpreted. General expectancy of school success was correlated with the attributions of school success to effort ($r = .41$, $p < .001$). This was the largest correlate of attribution scales and it indicated clearly, indeed, that those with the greater expectancy of success were those who attributed their school success to their effort.

This study examined the attributions of Native American and Anglo community college students who were enrolled in remedial reading classes. These students had experienced extensive low achievement because of their limited reading ability. It is noteworthy that Native American students attributed their school failure more to lack of effort than did the

Anglos. A greater attribution of failure to lack of effort may result in greater frustration for Native Americans than for Anglos. Although effort is modifiable, continued low achievement coupled with a greater attribution to lack of effort may result in lack of motivation and lowered expectancy of succes.

Research into attributions should go beyond subscales to patterns of responses. Native Americans and Anglos have different attributions in many areas of personality. With improvements in attributional measures, it will be possible to examine components of attributions to a greater degree.

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APPENDIX A

The likelihood ratio chi-square statistic is interpreted like the Pearson chi-square statistic. Its formula is given by

$$X^2_L = 2f(ij)\log f(ij)/F(ij)$$

where f(ij) is the observed freguency of the ith row and the jth column

F(ij) is the expected frequency under the hypothesis of independence

log is the natural logarithm.

One major advantage of the likelihood ratio chi-square statistic over the Pearson chi-square is that it can be partitioned exactly. The steps in partitioning a table are:

1. Compute an overall chi-square statistics to determine if the sample provides evidence that association exists in the 5 x 2 table.
2. Compute the chi-square for 2 x 2 subtables.
3. If the probability level of the chi-square is greater than 5%, the 2 x 2 table could be collapsed across rows, for example.
4. Partitioning and collapsing other 2 x 2 tables could continue following the above rules.
5. When subtables can no longer be collapsed, or when the nature of the association is evident, then the partitioning can stop. The resultant chi-square of the collapsed table can be compared with the chi-square computed at Step 1 to determine the amount of association lost through the partitioning process.

The advantages of partitioning a table is that (1) the association within the table can be localized, (2) the discussion about he table can be much more succinct and coherent and (3) the partitioning, hopefully, will bring out the structure of the data although, sometimes, there is a failure to find an effective partitioning.

Figure 1 is the graph of the proportion of community college students responding to Item 1 for Native American and Anglc students where the chi-square (11.97) was significant. Figure 2 is the graph of a nonsignificant chi-square (.85). Figure 1 demonstrates how the two groups diverge and hence, contribute to the significance of chi-square. The responses to scale values 1-3 in Figure 1 have a nonsignificant chi-square and thus, could be collapsed revealing that the two extremes (0-4) contribute mainly to the significance of the chi-square.

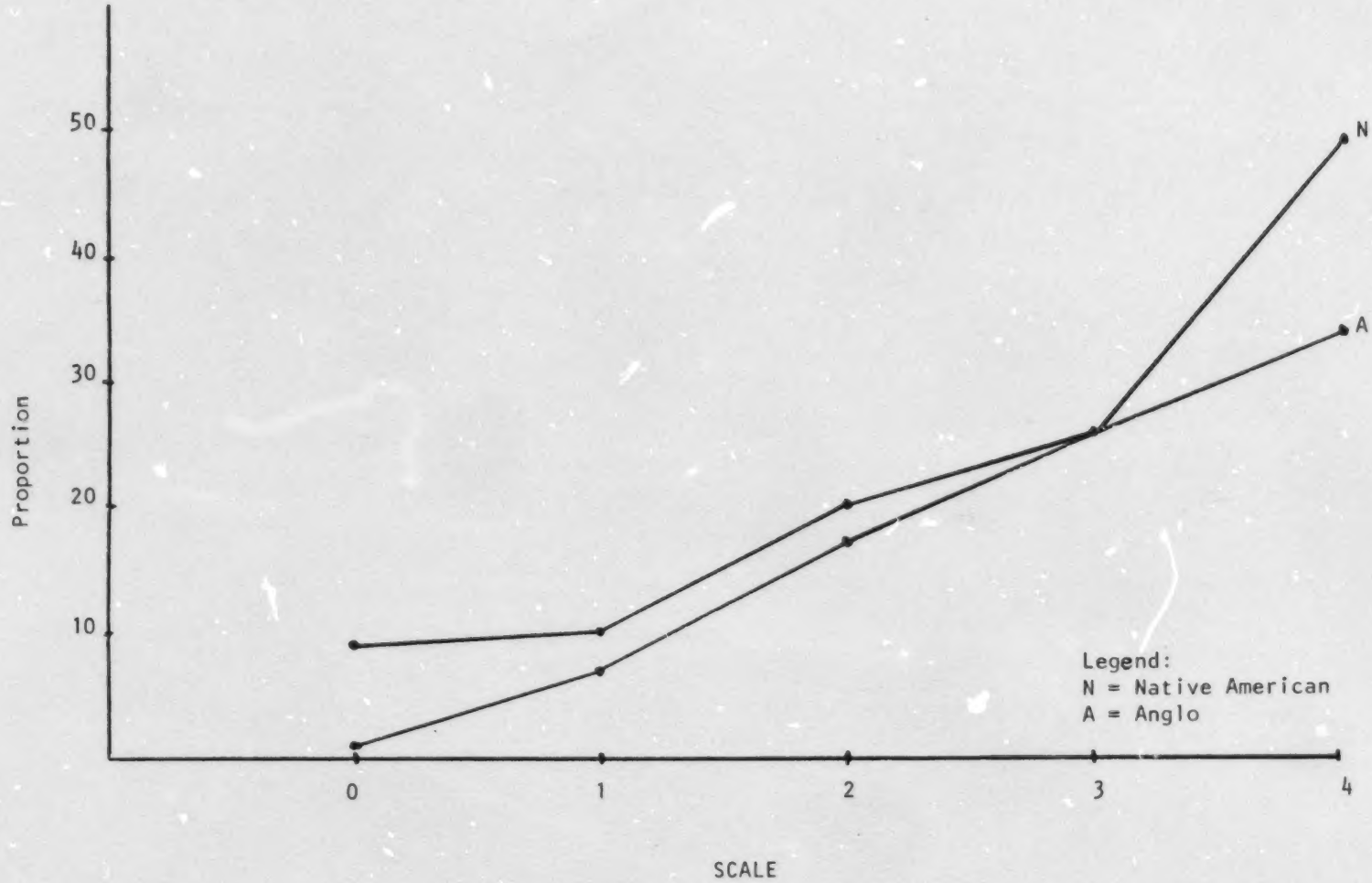

Figure 1: Graph of the proportion of individuals responding to each scale value for Native American and Anglo college students on Item 1. The chi-square is 11.97 with 4 degrees of freedom and significant at .018.

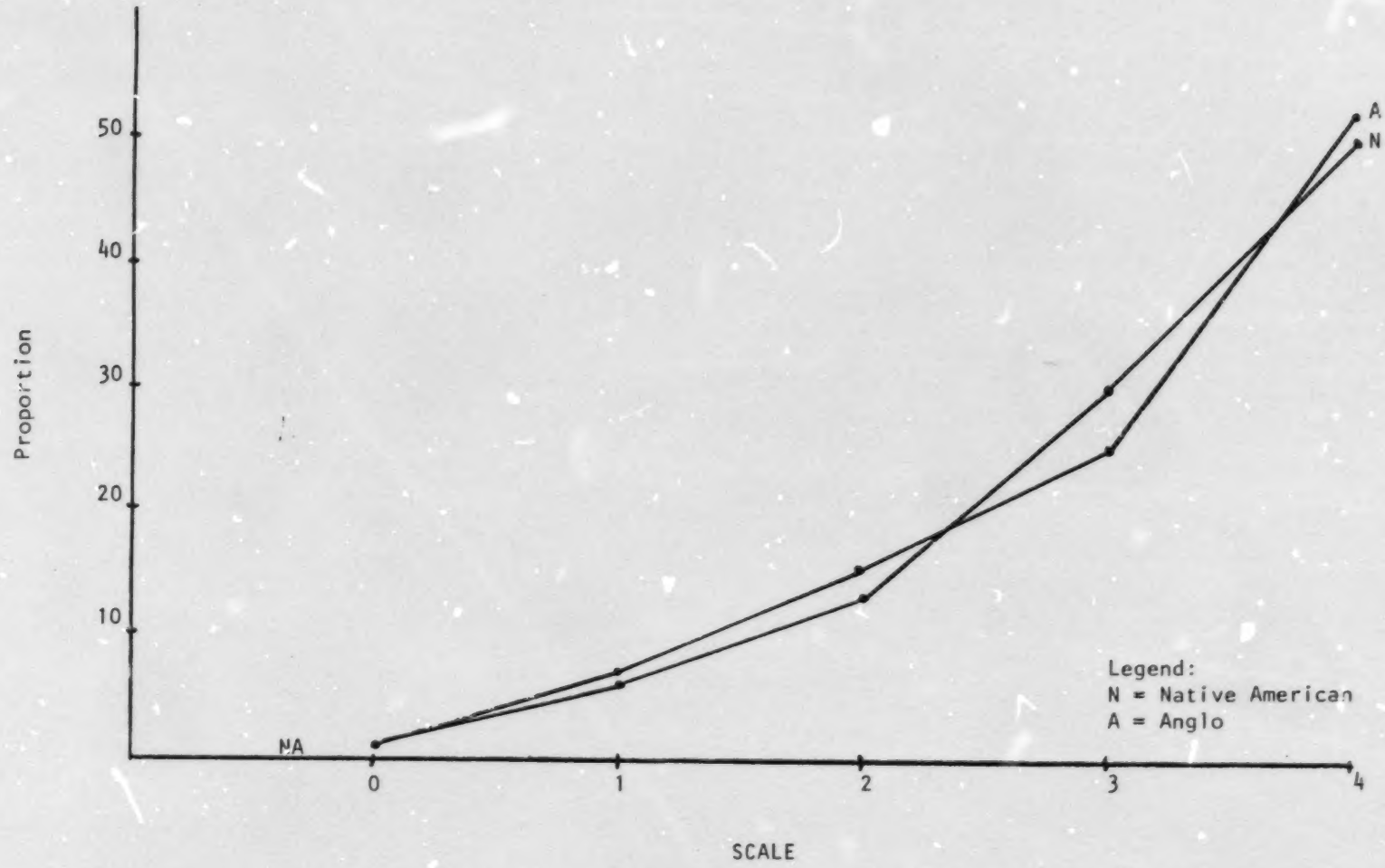

Figure 2: Graph of the proportion of individuals responding to each scale value for Native American and Anglo college students on Item 13. Chi-square is .85 with 4 degrees of freedom and significant at .930.

Table 1

Attributions for Academic Success and Failure of Native American and Anglo College Students

	Attribution	Native American		Anglo	
		M	SD	M	SD
Failure	Effort	9.77	2.15	8.38	3.00
	Ability	6.68	3.04	6.63	2.93
	Context	5.64	2.94	5.66	2.89
	Luck	4.31	2.85	4.51	2.60
Success	Effort	9.96	2.04	9.91	2.12
	Ability	8.78	2.62	8.52	2.26
	Context	5.96	2.95	5.94	2.84
	Luck	5.42	2.83	5.33	2.97
Reading Expectancy		11.23	2.66	10.68	2.76
Math Expectancy		9.53	3.42	9.85	3.18
General Expectancy		9.68	2.52	9.26	2.43
Achievement Motivation		26.55	3.77	25.58	3.63

Table 2

Items of the Effort Subscale of the MMCS

	Item	df	Chi-square	p
Failure	When I receive a poor grade, I usually feel that the main reason is that I haven't studied enough for that course.	4	11.97	.018
	When I fail to do as well as expected in school, it is often due to a lack of effort on my part.	4	13.10	.011
	Poor grades inform me that I haven't worked hard enough.	4	9.76	.045
Success	In my case, the good grades I receive are always the direct result of my efforts.	4	4.78	.311
	Whenever I receive good grades it is always because I have studied hard for that course.	4	.85	.930
	I can overcome all obstacles in the path of academic success if I work hard enough.	4	2.96	.568